



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/493,526	01/28/2000	Ofir Shalvi	TI-30149	2369
23494	7590	02/29/2008	EXAMINER	
TEXAS INSTRUMENTS INCORPORATED P O BOX 655474, M/S 3999 DALLAS, TX 75265			CORRIELUS, JEAN B	
ART UNIT	PAPER NUMBER			
			2611	
NOTIFICATION DATE		DELIVERY MODE		
02/29/2008		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

uspto@ti.com  
uspto@dlemail.itg.ti.com

UNITED STATES PATENT AND TRADEMARK OFFICE

---

BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

---

*Ex parte* OFIR SHALVI, ITAY LUSKY, and ARIEL YAGIL

---

Appeal 2007-3015  
Application 09/493,526  
Technology Center 2600

---

Decided: February 27, 2008

---

Before MAHSHID D. SAADAT, JOHN A. JEFFERY, and CARLA M.  
KRIVAK, *Administrative Patent Judges*.

KRIVAK, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants appeal under 35 U.S.C. § 134 (2002) from a final rejection  
of claims 1-3. We have jurisdiction under 35 U.S.C. § 6(b) (2002).  
We affirm.

### STATEMENT OF CASE

Appellants' invention is an apparatus and system that encodes and decodes CATV upstream channel data (Spec. 4: 4-11).

Independent claims 1 and 3, reproduced below, are representative of the subject matter on appeal.

1. An encoder for a CATV upstream data channel transmitter, comprising:

a convolutional encoder for receiving data values, said convolutional encoder concatenated with an outer Reed-Solomon encoder;

a bit interleaver interconnected with said convolutional encoder; and

a symbol mapper interconnected with said bit-interleaver.

3. A system which comprises:

an encoder for a CATV upstream data channel transmitter, comprising:

a convolutional encoder for receiving data values, said convolutional encoder concatenated with an outer Reed-Solomon encoder;

a bit interleaver interconnected with said convolutional encoder; and

a symbol mapper interconnected with said bit interleaver; and

a bit-interleaver decoder for a CATV upstream channel receiver, comprising:

a scorer for receiving symbols;

a bit de-interleaver interconnected with said scorer; and  
a convolutional decoder interconnected with said bit de-  
interleaver.

#### REFERENCE

Vijayan	US 6,151,296	Nov. 21, 2000 (filed June 19, 1997)
---------	--------------	--

The Examiner rejected claims 1-3 under 35 U.S.C. § 102(e) over  
Vijayan (Ans. 4-5).<sup>1</sup>

Appellants contend that Vijayan does not anticipate claims 1-3  
because the claims are limited to coding for upstream transmission in a cable  
system for handling impulse and burst noise problems rather than to  
multipath fading problems found in wireless systems (Br. 3-4.<sup>2</sup>)

#### ISSUE

The issue before us is whether Vijayan anticipates the encoder and  
system of claims 1-3 under 35 U.S.C. § 102(e).

#### PRINCIPLES OF LAW

---

<sup>1</sup> We refer to the most recent Answer mailed Jan. 10, 2007 throughout this  
opinion.

<sup>2</sup> We refer to the most recent Brief filed November 11, 2006, throughout this  
opinion.

In rejecting claims under 35 U.S.C. § 102, a single prior art reference that discloses, either expressly or inherently, each limitation of a claim anticipates that claim. *Perricone v. Medicis Pharmaceutical Corp.*, 432 F.3d 1368, 1375-76 (Fed. Cir. 2005), citing *Minn. Mining & Mfg. Co. v. Johnson & Johnson Orthopaedics, Inc.*, 976 F.2d 1559, 1565 (Fed. Cir. 1992). Anticipation of a patent claim requires a finding that the claim at issue “reads on” a prior art reference. *Atlas Powder Co. v. IRECO, Inc.*, 190 F.3d 1342, 1346 (Fed. Cir. 1999).

The law of anticipation, however, does not require that the reference teach what the Appellant is claiming, but only that the claims on appeal “read on” something disclosed in the reference. *See Kalman v. Kimberly-Clark Corp.*, 713 F.2d 760, 772 (Fed. Cir. 1983).

It is well settled that if a prior art device inherently possesses the capability of functioning in the manner claimed; anticipation exists regardless of whether there was recognition that it could be used to perform the claimed function. *See, e.g., In re Schreiber*, 128 F.3d 1473, 1477 (Fed. Cir. 1997). *See also LaBounty Mfg. v. Int'l Trade Comm'n*, 958 F.2d 1066 (Fed. Cir. 1992) (in quoting with approval from *Dwight & Lloyd Sintering Co. v. Greenawalt*, 27 F.2d 823, 828 (2d Cir. 1928)):

The use for which the [anticipatory] apparatus was intended is irrelevant, if it could be employed without change for the purposes of the patent; the statute authorizes the patenting of machines, not of their uses.

*LaBounty*, 958 F.2d at 1075.

“[A] claim preamble has the import that the claim as a whole suggests for it.” *Bell Communications Research, Inc. v. Vitalink Communications Corp.*, 55 F.3d 615, 620 (Fed. Cir. 1995). Where a patentee uses the claim preamble to recite structural limitations of his claimed invention, the PTO and courts give effect to that usage. *See id.; Corning Glass Works v. Sumitomo Elec. U.S.A., Inc.*, 868 F.2d 1251, 1257 (Fed. Cir. 1989). Conversely, where a patentee defines a structurally complete invention in the claim body and uses the preamble only to state a purpose or intended use for the invention, the preamble is not a claim limitation. *See Bell Communications*, 55 F.3d at 620; *Kropa v. Robie*, 187 F.2d 150, 152 (CCPA 1951).

## ANALYSIS

Appellants’ invention includes a convolutional encoder concatenated with an outer Reed-Solomon encoder, a bit interleaver interconnected with the convolutional encoder and a symbol mapper interconnected with the bit interleaver (Figs. 1 & 4; Cls. 1 and 3) for a CATV upstream data channel transmitter. Appellants’ invention further includes a scorer for receiving symbols, a bit de-interleaver interconnected with the scorer and a convolutional decoder interconnected with the bit de-interleaver (Fig. 3; Cl. 3).

Appellants do not argue that the elements of claims 1-3 are not found in Vijayan. Therefore, it is undisputed that all the structural limitations recited in Appellants application are found in Vijayan. Thus, using the

terms found in Appellants' claim 1, Figure 2 of Vijayan discloses a "convolutional encoder (26) concatenated with an outer Reed-Solomon encoder (24)," a "bit interleaver (28) interconnected with said convolutional encoder," and a "symbol mapper (32) interconnected with said bit interleaver." The symbol mapper of Vijayan is also a QAM mapper (Cl. 2). With respect to claim 3, the decoder portion of Vijayan teaches a scorer guard period deleter (40) and soft decision quantizer (53) - Fig. 3, col. 6, ll. 36-40), a de-interleaver (50) interconnected with the scorer and a convolutional decoder (52) connected to the de-interleaver (Fig. 3).

Appellants argue, however, that Vijayan does not disclose that such a structure can be used for a CATV upstream data channel transmitter. That is, Vijayan applies to a wireless (air interface) system (Subst. Br. 3), not a cable TV system (CATV), as recited in the claims. Specifically, Appellants assert that "[b]ecause the problems which coding are to overcome for upstream in a cable system differ from the problems of wireless systems, Vijayan does not anticipate claims 1-3" (Subst. Br. 3). Appellants contend that the coding in Vijayan counters multipath fading problems that a cable system does not have.<sup>3</sup> Although Appellants are correct that Vijayan does not address the use of the disclosed structure for a CATV upstream data

---

<sup>3</sup> The Examiner cited US Patent 5,881,363 to Ghosh showing that fading or multipath is a problem in both wireless and CATV systems (Ans. 6). Further, Appellants' own description of the invention also states that the coding method of the present invention alleviates signal fading (Spec. 2:1-6; Spec. 4:1-7).

channel transmitter, we do not agree with Appellants that Vijayan does not anticipate Appellants' invention.

With respect to claim 1, the CATV limitation is in the preamble. Nothing in the body of the claim links the elements recited to the CATV transmitter in the preamble. Because there are no structural limitations and the preamble is merely stating an intended use or purpose for the invention, the preamble is not a claim limitation (*Bell, supra*).

With respect to claim 3, although the CATV is in the body of the claim; the absence of specific limitations in the claim relating to the CATV function does not defeat a finding of anticipation. *See In re Schreiber, supra*. Accordingly, Appellants contention that the claimed apparatus and system is for use in a CATV transmitter is not persuasive since the claimed elements of the apparatus and system are already known as evidenced by Vijayan. Again, reading claim 3 on the encoder of Vijayan is not precluded since the limitation is merely for intended use and the claim is not delimited beyond the basic structure that is also applicable to the system in Vijayan.

Thus, as stated in *Schreiber, supra*, even if a prior art device is used for a different purpose, it will nevertheless anticipate the claim if it expressly or inherently contains all claimed structural features and is capable of performing the intended function. In this instance, Vijayan discloses all of the structural features of Appellants' claims and is capable of being used in a CATV transmitter.

## CONCLUSION

We, therefore, conclude that the Examiner did not err in rejecting claims 1-3 under 35 U.S.C. § 102(e).

#### DECISION

The decision of the Examiner rejecting claims 1-3 is affirmed.  
No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

Appeal 2007-3015  
Application 09/493,526

AFFIRMED

eld

TEXAS INSTRUMENTS INCORPORATED  
P O BOX 655474, M/S 3999  
DALLAS TX 75265